IN THE CLAIMS:

Please amend claims 1 and 4 as shown below, in which deleted terms are indicated with strikethrough and/or double brackets, and added terms are indicated with underscoring. Also, please add new claims 10 and 11, as shown below. The following list of claims replaces all previous versions, and listings of claims in the application.

1. (Currently amended) A vibratory mechanism comprising:

vibratory shafts, which are stored within a roll and are arranged symmetrically across a rotation axis of the roll, and are rotated in a same direction during operation of said mechanism;

fixed eccentric weights fixed to respective ones of the vibratory shafts;

rotatable eccentric weights rotatably attached to respective ones of the vibratory shafts;

rotation controllers controlling a range of movement of the rotatable eccentric weights; and

an eccentric moment controller which changes an eccentric moment around the vibratory shafts depending on a rotation direction of the vibratory shafts,

whereby the roll vibrates in all radial directions when the vibratory shafts rotate in one direction, and the roll vibrates in a direction tangential to the circumference of the roll when the vibratory shafts rotate in a reverse direction.

2. (Previously presented) A vibratory mechanism according to claim 1, wherein:

a first vibratory shaft and a second vibratory shaft are stored in the roll, and the first vibratory shaft is arranged at a 180° opposite position across a rotation axis of the roll with respect to the second vibratory shaft,

a total eccentric moment around the first vibratory shaft is substantially the same as a total eccentric moment around the second vibratory shaft, when the first vibratory shaft and the second vibratory shaft are rotated in the one direction,

a total eccentric moment around the first vibratory shaft is substantially the same as a total eccentric moment around the second vibratory shaft, when the first vibratory shaft and the second vibratory shaft are rotated in the reverse direction, wherein

the total eccentric moment around the first vibratory shaft is obtained by subtracting an eccentric moment of the fixed eccentric weight from an eccentric moment of the rotatable eccentric weight and the total eccentric moment around the second vibratory shaft is obtained by subtracting an eccentric moment of the rotatable eccentric weight from an eccentric moment of the fixed eccentric weight, when the first vibratory shaft and the second vibratory shaft are rotated in the one direction, and

the total eccentric moment around the first vibratory shaft is obtained by adding an eccentric moment of the fixed eccentric weight to an eccentric moment of the rotatable eccentric weight and the total eccentric moment around the second vibratory shaft is obtained by adding an eccentric moment of the rotatable eccentric weight to an eccentric moment of the fixed eccentric weight, when the first vibratory shaft and the second vibratory shaft are rotated in the reverse direction.

3. (Previously presented) A vibratory mechanism according to claim 2, wherein

respective rotatable eccentric weights of the first vibratory shaft and the second vibratory shaft are allowed to rotate around the first vibratory shaft and the second vibratory shaft, respectively, within limits of 0 to 180°,

the eccentric moment around the first vibratory shaft of the fixed eccentric weight is substantially the same as the eccentric moment around the second vibratory shaft of the rotatable eccentric weight, and

the eccentric moment around the first vibratory shaft of the rotatable eccentric weight is substantially the same as the eccentric moment around the second vibratory shaft of the fixed eccentric weight.

4. (Currently amended) A vibratory mechanism comprising:

a first vibratory shaft and a second vibratory shaft, which are stored within a roll and are arranged symmetrically across a rotation axis of the roll, and the first vibratory shaft and the second vibratory shaft are rotated in the same direction during operation of said mechanism;

a first fixed eccentric weight and a second fixed eccentric weight, which are fixed to the first vibratory shaft and the second vibratory shaft, respectively;

a first rotatable eccentric weight and a second rotatable eccentric weight, which are rotatably attached to the first vibratory shaft and the second vibratory shaft, respectively;

a first rotation controller, which is provided on the first fixed eccentric weight and controls a first phase difference between the first fixed eccentric weight and the first rotatable eccentric weight depending on the rotation direction of the first vibratory shaft; and

a second rotation controller, which is provided on the second fixed eccentric weight and controls a second phase difference between the second fixed eccentric weight and the second rotatable eccentric weight depending on the rotation direction of the second vibratory shaft.

5. (Previously presented) A vibratory mechanism according to claim 4, wherein

the first rotation controller and the second rotation controller hold the first phase difference and the second phase difference at 0°, respectively, when the first vibratory shaft and the second vibratory shaft rotate in one direction, and

the first rotation controller and the second rotation controller hold the first phase difference and the second phase difference at 180°, respectively, when the first vibratory shaft and the second vibratory shaft rotate in a reverse direction.

6. (Previously presented) A vibratory mechanism according to claim 5, wherein

an eccentric moment to the first vibratory shaft of the first fixed eccentric weight is substantially the same as an eccentric moment to the second vibratory shaft of the second rotatable eccentric weight, and

an eccentric moment to the first vibratory shaft of the first rotatable eccentric weight is substantially the same as an eccentric moment to the second vibratory shaft of the second fixed eccentric weight.

7. (Original) A vibratory roller having a vibratory mechanism of claim 1 in a roll.

8. (Currently amended) A vibratory mechanism according to claim 1, wherein said fixed eccentric weight fixed to one of the vibratory shafts is ~~larger~~ heavier than said rotatable eccentric weight rotatably attached to the one vibratory shafts, and said fixed eccentric weight fixed to another of the vibratory shafts is ~~smaller~~ lighter than said rotatable eccentric weight rotatably attached to the other vibratory shaft.

9. (Currently amended) A vibratory mechanism according to claim 4, wherein said fixed eccentric weight fixed to the first vibratory shafts is ~~larger~~ heavier than said rotatable eccentric weight rotatably attached to the first vibratory shaft, and said fixed eccentric weight fixed to the second vibratory shaft is ~~smaller~~ lighter than said rotatable eccentric weight rotatably attached to the second vibratory shaft.

10. (New) A vibratory mechanism according to claim 1, wherein said fixed eccentric weight fixed to one of the vibratory shafts is larger in size than said rotatable eccentric weight rotatably attached to the one vibratory shafts, and said fixed eccentric weight fixed to another of the vibratory shafts is smaller in size than said rotatable eccentric weight rotatably attached to the other vibratory shaft.

11. (New) A vibratory mechanism according to claim 4, wherein said fixed eccentric weight fixed to the first vibratory shafts is larger in size than said rotatable eccentric weight rotatably attached to the first vibratory shaft, and said fixed eccentric weight fixed to the second vibratory shaft is smaller in size than said rotatable eccentric weight rotatably attached to the second vibratory shaft.